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Technology Center 2600

In the Claims:

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B1
A/5
1. (AMENDED) A system for wireless communications comprising:
a hand-held wireless communications device;
an antenna coupled to the hand-held wireless communications device, the antenna configured to radiate with greater field intensity over an area of less than 360 degrees of arc;
a transmitter amplifier coupled to the antenna, the transmitter amplifier having an output impedance that matches the impedance of the antenna; and
wherein the antenna is oriented such that the area of less than 360 degrees of arc is in the direction away from a head of a user of the hand-held wireless communications device.
 2. (AMENDED) The system of claim 1 wherein the antenna is a patch antenna that is provided so as to filter the radiated signal by radiating the radiated signal within a narrow, predetermined band.
 3. The system of claim 1 wherein the antenna is a patch antenna that is configured to radiate with greater field intensity over an area of less than 360 degrees of arc.
 4. The system of claim 1 wherein the antenna is a loop antenna that is configured to radiate with greater field intensity over an area of 180 degrees of arc.
 5. The system of claim 1 further comprising a receive antenna coupled to the hand-held wireless communications device, wherein the receive antenna has an orthogonal field of reception relative to the antenna.
 6. The system of claim 1 further comprising a receive antenna coupled to the hand-held wireless communications device, wherein the receive antenna is a patch antenna.

7. The system of claim 1 wherein the impedance of the antenna is matched to the impedance of a power amplifier of the hand-held wireless communications device.

5 8. (AMENDED) A system for wireless communications comprising:
a hand-held wireless communications device;
a transmit antenna coupled to the hand-held wireless communications device;
a transmitter amplifier coupled to the transmit antenna, the transmitter amplifier having
an output impedance that matches the impedance of the transmit antenna; and
a receive antenna coupled to the wireless communications device.

9. The system of claim 8 wherein the hand-held wireless communications device is a cellular telephone.

10. The system of claim 8 wherein the transmit antenna has a transmit field that is orthogonal to the reception field of the receive antenna.

11. The system of claim 8 wherein the transmit antenna and the receive antenna are each patch antennas, and are each contained within a housing of the hand-held wireless communications device.

12. The system of claim 8 wherein the transmit antenna and the receive antenna are each patch antennas, and are each contained within an integrated circuit package.

Claims 13 through 21 are hereby cancelled without prejudice or disclaimer.

5 22. (NEW) A method for wireless communications comprising:
modulating speech data onto an electromagnetic signal;
transmitting the electromagnetic signal from a handheld device having an antenna that transmits with a greater field intensity over an area of less than 360 degrees of arc in a direction
away from a head of a user; and

wherein the antenna has an impedance that matches an output impedance of a transmitter amplifier of the handheld device.

23. (NEW) The method of claim 22 further comprising receiving an incoming electromagnetic signal at a second antenna.

24. (NEW) The method of claim 22 wherein transmitting the electromagnetic signal from the handheld device having the antenna that transmits in the direction away from the head of the user further comprises transmitting the electromagnetic signal from a patch antenna.

A3 25. (NEW) The method of claim 22 further comprising receiving an incoming electromagnetic signal at a patch antenna.

26. (NEW) The method of claim 22 further comprising receiving an incoming electromagnetic signal at a monopole antenna.

SUB B4 27. (NEW) A method for wireless communications comprising:
determining the output impedance of a transmitter amplifier of a wireless device;
adjusting the impedance of a patch antenna for the wireless device to match the output impedance of the transmitter amplifier; and
5 providing the patch antenna for use with the wireless device.

28. (NEW) The method of claim 27 wherein the output impedance of the transmitter amplifier is approximately 10 ohms.

29. (NEW) The method of claim 27 wherein adjusting the impedance of the patch antenna for the wireless device to match the output impedance of the transmitter amplifier comprises:

5 performing a finite element analysis on a design of the patch antenna to determine an estimated output impedance; and